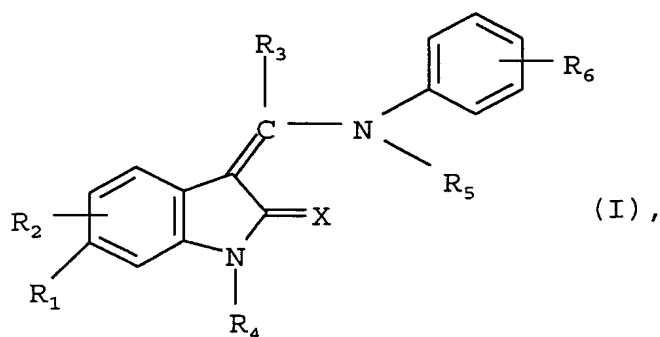


Patent Claims

1. Substituted indolinones of general formula



X denotes an oxygen or sulphur atom,

R<sub>1</sub> denotes a C<sub>2-3</sub>-alkenyl, C<sub>2-3</sub>-alkynyl, aryl, aryl-C<sub>1-3</sub>-alkyl, heteroaryl, heteroaryl-C<sub>1-3</sub>-alkyl, trifluoromethyl or cyano group,

a hydroxy, C<sub>1-3</sub>-alkoxy, hydroxy-C<sub>1-3</sub>-alkyl, C<sub>1-3</sub>-alkoxy-C<sub>1-3</sub>-alkyl, aryloxy or heteroaryloxy group,

a mercapto, C<sub>1-3</sub>-alkylsulphenyl, phenylsulphenyl, benzylsulphenyl, C<sub>1-3</sub>-alkylsulphinyl, phenylsulphinyl, benzylsulphinyl, C<sub>1-3</sub>-alkylsulphonyl, phenylsulphonyl, benzylsulphonyl, sulpho, C<sub>1-3</sub>-alkoxysulphonyl, phenoxysulphonyl or benzyloxysulphonyl group,

an amino, C<sub>1-3</sub>-alkylamino, di-(C<sub>1-3</sub>-alkyl)-amino, hydroxycarbonyl-C<sub>1-3</sub>-alkylamino, N-(C<sub>1-3</sub>-alkyl)-hydroxycarbonyl-C<sub>1-3</sub>-alkylamino,

C<sub>1-3</sub>-alkoxycarbonyl-C<sub>1-3</sub>-alkylamino, N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkoxycarbonyl-C<sub>1-3</sub>-alkylamino, phenylamino,

N-phenyl-C<sub>1-3</sub>-alkylamino, N,N-diphenylamino, benzylamino, N-benzyl-C<sub>1-3</sub>-alkylamino, N,N-dibenzylamino, C<sub>1-3</sub>-alkylcarbonylamino, benzoylamino or benzylcarbonylamino group or an N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylcarbonylamino group wherein the two alkyl groups may be replaced by a C<sub>2-5</sub>-n-alkylene bridge or wherein one or both alkyl groups may be replaced by a phenyl or benzyl group,

a C<sub>1-3</sub>-alkylsulphonylamino, phenylsulphonylamino or benzylsulphonylamino group or an N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylsulphonylamino group wherein the two alkyl groups may be replaced by a C<sub>2-5</sub>-n-alkylene bridge or wherein one or both alkyl groups may be replaced by a phenyl or benzyl group,

an aminosulphonyl, C<sub>1-3</sub>-alkylaminosulphonyl, phenylaminosulphonyl, benzylaminosulphonyl, di-(C<sub>1-3</sub>-alkyl)-aminosulphonyl, N,N-diphenyl-aminosulphonyl or N,N-dibenzyl-aminosulphonyl group,

a phosphono, (C<sub>1-3</sub>-alkoxy)PO(H), (C<sub>1-3</sub>-alkoxy)PO(C<sub>1-3</sub>-alkyl), (C<sub>1-3</sub>-alkoxy)PO(OH), di-(C<sub>1-3</sub>-alkoxy)-PO or (C<sub>2-4</sub>-n-alkylenedioxy)-PO group,

a ureido group optionally mono-, di- or trisubstituted by C<sub>1-3</sub>-alkyl groups,

a 4- to 7-membered cycloalkyleneimino or cycloalkyleneiminosulphonyl group, wherein in each case the methylene group in the 4 position of a 6- or 7-membered cycloalkyleneimino group may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, -NH or -N(C<sub>1-3</sub>-alkyl) group,

R<sub>2</sub> denotes a hydrogen, fluorine, chlorine, bromine or iodine atom,

a C<sub>1-6</sub>-alkyl or trifluoromethyl group,

a hydroxy, C<sub>1-3</sub>-alkoxy, mercapto, C<sub>1-3</sub>-alkylsulphenyl, C<sub>1-3</sub>-alkylsulphanyl, C<sub>1-3</sub>-alkylsulphonyl, sulpho, C<sub>1-3</sub>-alkoxysulphonyl, aminosulphonyl, C<sub>1-3</sub>-alkylaminosulphonyl or di-(C<sub>1-3</sub>-alkyl)-aminosulphonyl group,

a nitro, amino, C<sub>1-3</sub>-alkylamino or di-(C<sub>1-3</sub>-alkyl)-amino group,

a C<sub>1-3</sub>-alkylcarbonyl, cyano, carboxy, C<sub>1-3</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-3</sub>-alkylaminocarbonyl or di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl group,

a phosphono, (C<sub>1-3</sub>-alkoxy)PO(H), (C<sub>1-3</sub>-alkoxy)PO(C<sub>1-3</sub>-alkyl), (C<sub>1-3</sub>-alkoxy)PO(OH) or di-(C<sub>1-3</sub>-alkoxy)-PO group,

a 4- to 7-membered cycloalkyleneimino, cycloalkyleneiminocarbonyl or cycloalkyleneiminosulphonyl group, wherein in each case the methylene group in the 4 position of a 6- or 7-membered cycloalkyleneimino group may be replaced by an oxygen or sulphur atom, by a sulphenyl, sulphonyl, -NH or -N(C<sub>1-3</sub>-alkyl) group, or

R<sub>1</sub> and R<sub>2</sub> together denote a methylenedioxy, ethylenedioxy, n-propylene, n-butylene or 1,4-butadienylene group,

R<sub>3</sub> denotes a hydrogen atom, denotes a C<sub>1-6</sub>-alkyl, C<sub>3-7</sub>-cycloalkyl, trifluoromethyl or heteroaryl group,

a phenyl or naphthyl group optionally mono- or disubstituted by a fluorine, chlorine, bromine or iodine atom, by a

trifluoromethyl, C<sub>1-3</sub>-alkyl or C<sub>1-3</sub>-alkoxy group, whilst in the case of disubstitution the substituents may be identical or different, which may additionally be substituted

by a hydroxy, hydroxy-C<sub>1-3</sub>-alkyl or C<sub>1-3</sub>-alkoxy-C<sub>1-3</sub>-alkyl group,

by a cyano, cyano-C<sub>1-3</sub>-alkyl, cyano-C<sub>2-3</sub>-alkenyl, cyano-C<sub>2-3</sub>-alkynyl, carboxy, carboxy-C<sub>1-3</sub>-alkyl, carboxy-C<sub>2-3</sub>-alkenyl, carboxy-C<sub>2-3</sub>-alkynyl, C<sub>1-3</sub>-alkoxycarbonyl, C<sub>1-3</sub>-alkoxycarbonyl-C<sub>1-3</sub>-alkyl, C<sub>1-3</sub>-alkoxycarbonyl-C<sub>2-3</sub>-alkenyl or C<sub>1-3</sub>-alkoxycarbonyl-C<sub>2-3</sub>-alkynyl group,

by a C<sub>1-3</sub>-alkylcarbonyl, C<sub>1-3</sub>-alkylcarbonyl-C<sub>1-3</sub>-alkyl, C<sub>1-3</sub>-alkylcarbonyl-C<sub>2-3</sub>-alkenyl or C<sub>1-3</sub>-alkylcarbonyl-C<sub>2-3</sub>-alkynyl group,

by an aminocarbonyl, aminocarbonyl-C<sub>1-3</sub>-alkyl, aminocarbonyl-C<sub>2-3</sub>-alkenyl, aminocarbonyl-C<sub>2-3</sub>-alkynyl, C<sub>1-3</sub>-alkylaminocarbonyl, C<sub>1-3</sub>-alkylaminocarbonyl-C<sub>1-3</sub>-alkyl, C<sub>1-3</sub>-alkylaminocarbonyl-C<sub>2-3</sub>-alkenyl, C<sub>1-3</sub>-alkylaminocarbonyl-C<sub>2-3</sub>-alkynyl, di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl, di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl-C<sub>1-3</sub>-alkyl, di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl-C<sub>2-3</sub>-alkenyl or di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl-C<sub>2-3</sub>-alkynyl group,

by a nitro, nitro-C<sub>1-3</sub>-alkyl, nitro-C<sub>2-3</sub>-alkenyl or nitro-C<sub>2-3</sub>-alkynyl group,

by an amino, C<sub>1-3</sub>-alkylamino, di-(C<sub>1-3</sub>-alkyl)-amino, amino-C<sub>1-3</sub>-alkyl, C<sub>1-3</sub>-alkylamino-C<sub>1-3</sub>-alkyl or di-(C<sub>1-3</sub>-alkyl)-amino-C<sub>1-3</sub>-alkyl group,

by a C<sub>1-3</sub>-alkylcarbonylamino, C<sub>1-3</sub>-alkylcarbonylamino-C<sub>1-3</sub>-alkyl, N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylcarbonylamino, N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylcarbonylamino-C<sub>1-3</sub>-alkyl, C<sub>1-3</sub>-alkylsulphonylamino, C<sub>1-3</sub>-alkylsulphonylamino-C<sub>1-3</sub>-alkyl, N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylsulphonylamino or N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylsulphonylamino-C<sub>1-3</sub>-alkyl group,

by a 4- to 7-membered cycloalkyleneimino, cycloalkyleneiminocarbonyl, cycloalkyleneiminiosulphonyl, cycloalkyleneimino-C<sub>1-3</sub>-alkyl, cycloalkyleneiminocarbonyl-C<sub>1-3</sub>-alkyl or cycloalkyleneiminiosulphonyl-C<sub>1-3</sub>-alkyl group, wherein in each case the methylene group in the 4 position of a 6- or 7-membered cycloalkyleneimino group may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, -NH or -N(C<sub>1-3</sub>-alkyl) group,

or by a heteroaryl or heteroaryl-C<sub>1-3</sub>-alkyl group,

R<sub>4</sub> denotes a hydrogen atom, a C<sub>1-3</sub>-alkyl group or a prodrug group,

R<sub>5</sub> denotes a hydrogen atom or a C<sub>1-3</sub>-alkyl group and

R<sub>6</sub> denotes a hydrogen, fluorine, chlorine, bromine or iodine atom,

a trifluoromethyl or heteroaryl group, a C<sub>1-3</sub>-alkoxy group optionally substituted by 1 to 3 fluorine atoms, an amino-C<sub>1-3</sub>-alkoxy, C<sub>1-3</sub>-alkylamino-C<sub>2-3</sub>-alkoxy or benzylamino-C<sub>2-3</sub>-alkoxy group, a cycloalkyleneimino-C<sub>2-3</sub>-alkoxy group with 4 to 7 ring members, a di-(C<sub>1-3</sub>-alkyl)-amino-C<sub>2-3</sub>-alkoxy or C<sub>1-3</sub>-alkylmercapto group,

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a nitro, cyano, carboxy, C<sub>1-3</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-3</sub>-alkylaminocarbonyl, di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl, piperidinocarbonyl or tetrazolyl group,

a C<sub>1-3</sub>-alkylcarbonylamino group optionally substituted at the nitrogen atom by a C<sub>1-3</sub>-alkyl group,

an imidazolyl or piperazino group optionally substituted at the imino group by a C<sub>1-3</sub>-alkyl group,

a C<sub>1-4</sub>-alkyl group, which may be terminally substituted

by a hydroxy, C<sub>1-3</sub>-alkoxy, carboxy, C<sub>1-3</sub>-alkoxycarbonyl, amino, C<sub>1-4</sub>-alkylamino, di-(C<sub>1-4</sub>-alkyl)-amino, phenylamino, N-phenyl-C<sub>1-3</sub>-alkylamino, phenyl-n-C<sub>1-3</sub>-alkylamino, N-(C<sub>1-3</sub>-alkyl)-phenyl-n-C<sub>1-3</sub>-alkylamino or di-(phenyl-n-C<sub>1-3</sub>-alkyl)-amino group,

by a 4- to 7-membered cycloalkyleneimino group wherein

a methylene group linked to the imino group may be replaced by a carbonyl or sulphonyl group or

one or two hydrogen atoms may each be replaced by a C<sub>1-3</sub>-alkyl group and/or

in each case the methylene group in the 4 position of a 6- or 7-membered cycloalkyleneimino group may be substituted by a carboxy, C<sub>1-3</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-3</sub>-alkylaminocarbonyl, di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl, phenyl-n-C<sub>1-3</sub>-alkylamino or N-(C<sub>1-3</sub>-alkyl)-phenyl-n-C<sub>1-3</sub>-alkylamino group or

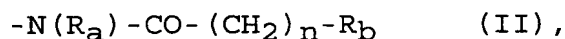
may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, -NH or -N(C<sub>1-3</sub>-alkyl) group,

by a 5- to 7-membered cycloalkenyleneimino group wherein the double bond is isolated from the nitrogen atom,

by a C<sub>4-7</sub>-cycloalkylamino, N-(C<sub>1-3</sub>-alkyl)-C<sub>4-7</sub>-cycloalkylamino or C<sub>5-7</sub>-cycloalkenylamino group wherein position 1 of the ring is not involved in the double bond and wherein the nitrogen atom may be substituted by a C<sub>1-3</sub>-alkyl group,

by a C<sub>1-3</sub>-alkylcarbonylamino, N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylcarbonylamino, aminocarbonyl, C<sub>1-3</sub>-alkyl-aminocarbonyl or di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl group,

or R<sub>6</sub> denotes a group of formula



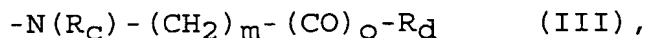
wherein

R<sub>a</sub> denotes a C<sub>1-3</sub>-alkyl group,

n one of the numbers 0, 1 or 2 and

R<sub>b</sub> denotes an amino, C<sub>1-4</sub>-alkylamino, phenylamino, N-(C<sub>1-4</sub>-alkyl)-phenylamino, benzylamino, N-(C<sub>1-4</sub>-alkyl)-benzylamino or di-(C<sub>1-4</sub>-alkyl)-amino group or a 4- to 7-membered cycloalkyleneimino group, wherein in each case the methylene group in the 4 position of a 6- or 7-membered cycloalkyleneimino group may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, -NH or -N(C<sub>1-3</sub>-alkyl) group,

a group of formula



wherein

$R_C$  denotes a  $C_{1-3}$ -alkyl,  $C_{1-3}$ -alkylcarbonyl, arylcarbonyl, benzylcarbonyl,  $C_{1-3}$ -alkylsulphonyl, arylsulphonyl or benzylsulphonyl group,

$m$  denotes one of the numbers 1, 2, 3 or 4,

$o$  denotes one of the numbers 0 or 1 and

$R_d$  has the meanings given for  $R_b$  hereinbefore or denotes a di- $(C_{1-4}$ -alkyl)-amino- $C_{1-3}$ -alkylamino group optionally substituted in the 1 position by a  $C_{1-3}$ -alkyl group,

or an N- $(C_{1-3}$ -alkyl)- $C_{1-3}$ -alkylsulphonylamino group,

whilst additionally any carboxy, amino or imino group present may be substituted by a group which can be cleaved in vivo,

the isomers and the salts thereof.

2. Substituted indolinones of general formula I according to claim 1, wherein

X denotes an oxygen atom,

$R_1$  denotes a  $C_{1-3}$ -alkoxy, trifluoromethyl, di- $(C_{1-3}$ -alkyl)-amino, pyrrolidino or pyrrolo group,

an amino or  $C_{1-3}$ -alkylamino group wherein an amino-hydrogen atom may be replaced by a  $C_{1-3}$ -alkylcarbonyl, phenyl- $C_{1-3}$ -alkylcarbonyl, benzoyl, aminocarbonyl,



C<sub>1-3</sub>-alkylsulphonyl, phenylsulphonyl, carboxy-C<sub>1-3</sub>-alkyl or C<sub>1-3</sub>-alkyloxycarbonyl-C<sub>1-3</sub>-alkyl group, or

a phenyl group optionally substituted by a C<sub>1-3</sub>-alkyl group,

R<sub>2</sub> denotes a hydrogen atom or a C<sub>1-3</sub>-alkoxy group or

R<sub>1</sub> and R<sub>2</sub> together denote a methylenedioxy group,

R<sub>3</sub> denotes a C<sub>1-3</sub>-alkyl or phenyl group or a phenyl group substituted by a cyano, amino-C<sub>1-3</sub>-alkyl or N-(C<sub>1-3</sub>-alkanoyl)-amino-C<sub>1-3</sub>-alkyl group,

R<sub>4</sub> denotes a hydrogen atom,

R<sub>5</sub> denotes a hydrogen atom and

R<sub>6</sub> denotes a hydrogen, fluorine, chlorine, bromine or iodine atom,

a trifluoromethyl, 4-(C<sub>1-3</sub>-alkyl)-piperazino, pyridinyl, imidazolyl, tetrazolyl, C<sub>1-3</sub>-alkoxy or C<sub>1-3</sub>-alkylmercapto group,

a nitro, cyano, carboxy or C<sub>1-3</sub>-alkyloxycarbonyl group or a C<sub>1-3</sub>-alkylcarbonylamino group optionally substituted at the nitrogen atom by a C<sub>1-3</sub>-alkyl group,

a piperidinocarbonyl group or an aminocarbonyl group optionally substituted by one or two C<sub>1-3</sub>-alkyl groups,

a C<sub>1-3</sub>-alkyl group, which may be terminally substituted

by an amino, C<sub>1-4</sub>-alkylamino, di-(C<sub>1-4</sub>-alkyl)-amino, phenylamino, N-phenyl-C<sub>1-3</sub>-alkylamino, phenyl-n-C<sub>1-3</sub>-alkylamino, N-(C<sub>1-3</sub>-alkyl)-phenyl-n-C<sub>1-3</sub>-alkylamino or di-(phenyl-n-C<sub>1-3</sub>-alkyl)-amino group, by a pyrrolidino, piperidino, hexamethyleneimino, morpholino, thiomorpholino, 1-oxido-thiomorpholino or piperazino group,

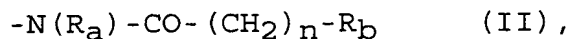
whilst the piperidino group may additionally be substituted by one or two C<sub>1-3</sub>-alkyl groups or by a carboxy, C<sub>1-3</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-3</sub>-alkylaminocarbonyl- di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl or N-(C<sub>1-3</sub>-alkyl)-phenyl-n-C<sub>1-3</sub>-alkylamino group,

by a C<sub>5-7</sub>-cycloalkylamino or C<sub>5-7</sub>-cycloalkenylamino group wherein position 1 of the ring is not involved in the double bond,

by a C<sub>1-3</sub>-alkylcarbonylamino, N-(C<sub>1-3</sub>-alkyl)-C<sub>1-3</sub>-alkylcarbonylamino, carboxy, C<sub>1-3</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-3</sub>-alkylaminocarbonyl or di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl group,

a C<sub>1-3</sub>-alkoxy group, which is terminally substituted by an amino, C<sub>1-3</sub>-alkylamino or di-(C<sub>1-3</sub>-alkyl)-amino group,

a group of formula



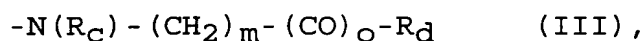
wherein

R<sub>a</sub> denotes a C<sub>1-3</sub>-alkyl group,

n denotes one of the numbers 0, 1 or 2 and

$R_D$  denotes an amino,  $C_{1-4}$ -alkylamino or di- $(C_{1-4}$ -alkyl)-amino group or a pyrrolidino, piperidino, hexamethyleneimino, morpholino, thiomorpholino, 1-oxido-thiomorpholino or piperazino group,

a group of formula



wherein

$R_C$  denotes a  $C_{1-3}$ -alkyl,  $C_{1-3}$ -alkylcarbonyl or  $C_{1-3}$ -alkylsulphonyl group,

$m$  denotes one of the numbers 1, 2, 3 or 4,

$o$  denotes one of the numbers 0 or 1 and

$R_D$  has the meanings given for  $R_D$  hereinbefore or denotes a di- $(C_{1-4}$ -alkyl)-amino- $C_{1-3}$ -alkylamino group optionally substituted in the 1 position by a  $C_{1-3}$ -alkyl group,

or an N- $(C_{1-3}$ -alkyl)- $C_{1-3}$ -alkylsulphonylamino group,

the isomers and the salts thereof.

3. Substituted indolinones of general formula I according to claim 1, wherein

X denotes an oxygen atom,

$R_1$  denotes a methoxy, ethoxy, trifluoromethyl, phenyl, methylphenyl, dimethylamino, pyrrolidino or pyrrolo group,

an amino group which may be substituted by a methyl, carboxymethyl, methoxycarbonylmethyl, acetyl, phenylacetyl, benzoyl, methanesulphonyl, benzenesulphonyl or aminocarbonyl group,

R<sub>2</sub> denotes a hydrogen atom, a methoxy or ethoxy group or

R<sub>1</sub> and R<sub>2</sub> together denote a methylenedioxy group,

R<sub>3</sub> denotes an ethyl group or a phenyl group optionally substituted by a cyano, aminomethyl or N-acetyl-aminomethyl group,

R<sub>4</sub> denotes a hydrogen atom,

R<sub>5</sub> denotes a hydrogen atom and

R<sub>6</sub> denotes a hydrogen, fluorine, chlorine, bromine or iodine atom,

a methyl, trifluoromethyl, methoxy, ethoxy, methylmercapto, cyano, carboxy, methoxycarbonyl, ethoxycarbonyl, aminocarbonyl, dimethylaminocarbonyl, piperidinocarbonyl, nitro, 4-methyl-piperazino, imidazolyl, pyridinyl or tetrazolyl group,

an ethyloxy or n-propyloxy group terminally substituted by a dimethylamino group,

a methyl or ethyl group substituted by a carboxy, methoxycarbonyl, ethoxycarbonyl, aminocarbonyl or dimethylaminocarbonyl group,

a C<sub>1-3</sub>-alkyl group, which may be terminally substituted

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by an amino, C<sub>1-4</sub>-alkylamino, cyclohexylamino, benzylamino or phenylamino group wherein a hydrogen atom of the amino-nitrogen atom may be replaced in each case by a C<sub>1-3</sub>-alkyl, benzyl, acetyl or dimethylaminocarbonyl group,

by a piperidino group optionally substituted by one or two methyl groups,

by a piperidino group substituted by a carboxy, methoxycarbonyl, ethoxycarbonyl or dimethylaminocarbonyl group,

by a pyrrolidino, 3,4-dehydro-piperidino, hexamethyleneimino, morpholino, thiomorpholino, 1-oxo-thiomorpholino or piperazino group,

a C<sub>1-3</sub>-alkylamino group wherein the hydrogen atom of the amino-nitrogen atom is replaced

by an ethyl or n-propyl group, each of which is terminally substituted by a dimethylamino group,

by a C<sub>2-3</sub>-alkanoyl group which may be substituted in the 2 or 3 position by an amino, C<sub>1-3</sub>-alkylamino, di-(C<sub>1-3</sub>-alkyl)-amino, pyrrolidino, piperidino, morpholino or piperazino group,

by an aminocarbonyl, methylaminocarbonyl, dimethylaminocarbonyl, piperidinocarbonyl or methanesulphonyl group,

and additionally the C<sub>1-3</sub>-alkyl moiety of the C<sub>1-3</sub>-alkylamino group may be substituted

by an aminocarbonyl group,

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by a C<sub>1-3</sub>-alkylaminocarbonyl or di-(C<sub>1-3</sub>-alkyl)-aminocarbonyl group wherein a C<sub>2-3</sub>-alkyl moiety may additionally be terminally substituted by a dimethylamino group,

by a pyrrolidinocarbonyl, piperidinocarbonyl, morpholinocarbonyl or piperazinocarbonyl group,

whilst the C<sub>2-3</sub>-alkyl moiety of the abovementioned C<sub>1-3</sub>-alkylamino group may also be terminally substituted by an amino, C<sub>1-3</sub>-alkylamino, di-(C<sub>1-3</sub>-alkyl)-amino, pyrrolidino, piperidino, morpholino or piperazino group,

the isomers and the salts thereof.

4. Substituted indolinones of general formula I according to claim 2 or 3, wherein

X, R<sub>1</sub> and R<sub>3</sub> to R<sub>6</sub> are as defined in claim 2 and

R<sub>2</sub> denotes a hydrogen atom,

the isomers and the salts thereof.

5. Substituted indolinones of general formula I according to claim 2 or 3, wherein

X and R<sub>3</sub> to R<sub>6</sub> are as defined in claim 2,

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, each denote a C<sub>1-3</sub>-alkoxy group,

the isomers and the salts thereof.

6. Substituted indolinones of general formula I according to claim 1, wherein

X denotes an oxygen atom,

R<sub>1</sub> denotes an amino, methoxy or ethoxy group,

R<sub>2</sub> denotes a hydrogen atom or in position 5 a methoxy or ethoxy group,

R<sub>3</sub> denotes a methyl, ethyl or phenyl group,

R<sub>4</sub> and R<sub>5</sub> each denote a hydrogen atom and

R<sub>6</sub> denotes a methyl or ethyl group substituted by a methylamino, ethylamino, piperidino or 4-(dimethylaminocarbonyl)-piperidino group, wherein the amino-hydrogen atom of the methylamino- and ethylamino group is replaced by a methyl or benzyl group, an N-dimethylaminomethylcarbonyl-N-methyl-amino group or an N-acetyl-N-(C<sub>2-3</sub>-alkyl)-amino group wherein the C<sub>2-3</sub>-alkyl moiety in each case is terminally substituted by a dimethylamino group,

and the salts thereof.

7. The following substituted indolinones of general formula I according to claim 1:

(a) 3-(Z)-{1-[4-(piperidin-1-yl-methyl)-anilino]-1-phenyl-methylidene}-5,6-dimethoxy-2-indolinone,

(b) 3-(Z)-(1-{4-[(N-benzyl-N-methyl-amino)-methyl]-anilino}-1-phenyl-methylidene)-5,6-dimethoxy-2-indolinone,

(c) 3-(Z)-{1-(4-(dimethylamino-methyl)-anilino)-1-phenyl-methylidene}-5,6-dimethoxy-2-indolinone,

(d) 3-(Z)-{1-[4-(N-dimethylaminomethylcarbonyl-N-methyl-amino)-anilino]-1-phenyl-methylidene}-5,6-dimethoxy-2-indolinone,

(e) 3-(Z)-(1-{4-[2-(4-dimethylcarboxamide-piperidin-1-yl)-ethyl]-anilino}-1-phenyl-methylidene)-5,6-dimethoxy-2-indolinone,

(f) 3-(Z)-{1-[4-(N-dimethylaminomethylcarbonyl-N-methyl-amino)-anilino]-1-ethyl-methylidene}-5,6-dimethoxy-2-indolinone and

(g) 6-amino-3-(Z)-{1-[4-(piperidin-1-yl-methyl)-anilino]-1-phenyl-methylidene}-2-indolinone,

(h) 3-(Z)-(1-{4-[N-acetyl-N-(2-dimethylamino-ethyl)-amino]-anilino}-1-phenyl-methylidene)-5,6-dimethoxy-2-indolinone,

(i) 3-(Z)-(1-{4-[N-acetyl-N-(3-dimethylamino-propyl)-amino]-anilino}-1-phenyl-methylidene)-5,6-dimethoxy-2-indolinone

and the salts thereof.

8. Physiologically acceptable salts of the compounds according to claim 1 to 7.

9. Pharmaceutical compositions containing a compound according to at least one of claims 1 to 7 or a salt according to claim 8 optionally together with one or more inert carriers and/or diluents.

10. Use of a compound according to at least one of claims 1 to 7 or a salt according to claim 8 for preparing a pharmaceutical composition which is suitable for treating excessive or anomalous cell proliferation.

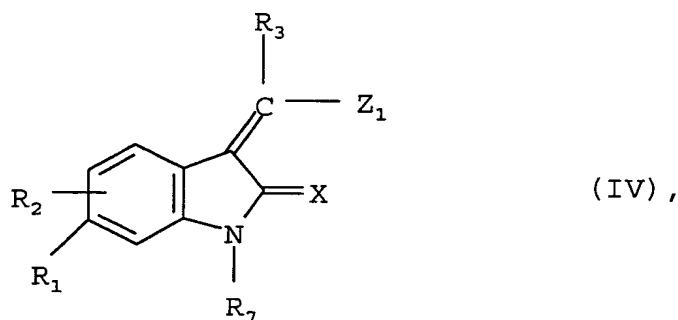


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11. Process for preparing a pharmaceutical composition according to claim 9, characterised in that a compound according to at least one of claims 1 to 7 or a salt according to claim 8 is incorporated in one or more inert carriers and/or diluents by a non-chemical method.

12. Process for preparing the compounds according to claims 1 to 8, characterised in that

a. a compound of general formula



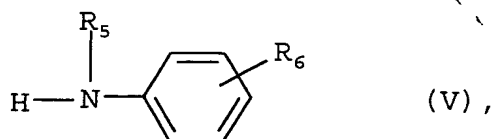
wherein

X and R<sub>1</sub> to R<sub>3</sub> are defined as in claims 1 to 7,

R<sub>7</sub> denotes a hydrogen atom, a protecting group for the nitrogen atom of the lactam group or a bond to a solid phase and

Z<sub>1</sub> denotes a halogen atom, a hydroxy, alkoxy or arylalkoxy group,

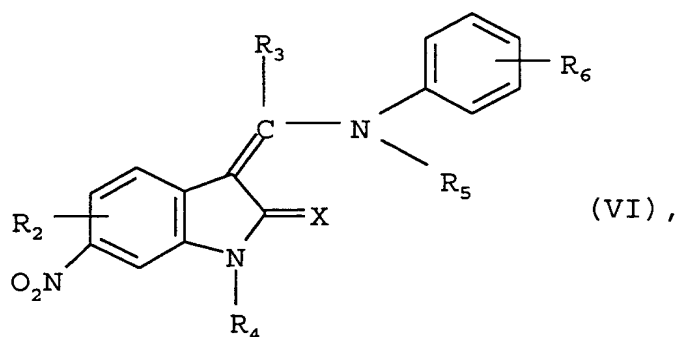
is reacted with an amine of general formula



wherein

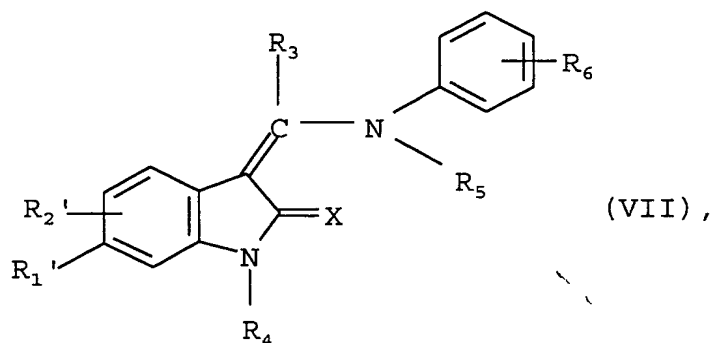
$R_5$  and  $R_6$  are defined as in claims 1 to 7, and if necessary any protecting group used for the nitrogen atom of the lactam group is cleaved or a compound thus obtained is cleaved from a solid phase or

b. in order to prepare a compound of general formula I wherein  $R_1$  denotes an amino group, a compound of general formula



is reduced or

c. in order to prepare a compound of general formula I wherein  $R_1$  and/or  $R_2$  denotes one of the substituted sulphonyl or sulphonyl groups mentioned in claims 1 to 7, a compound of general formula



wherein

$R_3$  to  $R_6$  are defined as in claims 1 to 7 and

one of the groups  $R_1'$  and  $R_2'$  denotes one of the substituted mercapto or sulphinyl groups mentioned for  $R_1$  and  $R_2$  in claims 1 to 6 and the other assumes the meanings given for  $R_1$  or  $R_2$  in claims 1 to 7 with the exception of the mercapto or sulphinyl groups or both groups  $R_1'$  and  $R_2'$  denote one of the substituted mercapto or sulphinyl groups mentioned for  $R_1$  and  $R_2$  in claims 1 to 6, is oxidised and

subsequently, if desired, a compound of general formula I thus obtained which contains an alkoxycarbonyl group is converted by hydrolysis into a corresponding carboxy compound or

a compound of general formula I thus obtained which contains an amino or alkylamino group is converted by alkylation or reductive alkylation into a corresponding alkylamino, dialkylamino or pyrrolidino compound or

a compound of general formula I thus obtained which contains an amino or alkylamino group is converted by acylation into a corresponding acyl compound or

a compound of general formula I thus obtained which contains an amino or alkylamino group is converted by sulphonation into a corresponding sulphonyl compound or

a compound of general formula I thus obtained which contains an amino group is converted by a reaction of condensation into a corresponding pyrrolo compound or

a compound of general formula I thus obtained which contains a carboxy group is converted by esterification or amidation into a corresponding ester or aminocarbonyl compound or

a compound of general formula I thus obtained which contains a cyano group, is converted by reduction into a corresponding aminomethyl compound or

a compound of general formula I thus obtained which contains an amino or alkylamino group is converted by reaction with cyanic acid or a corresponding isocyanate into a corresponding ureido compound and

if necessary any protecting group used to protect reactive groups during the reactions is cleaved or

if desired a compound of general formula I thus obtained is subsequently resolved into the stereoisomers thereof or

a compound of general formula I thus obtained is converted into the salts thereof, in particular for pharmaceutical use into the physiologically acceptable salts thereof with an inorganic or organic acid or base.